# RHEUMATISM

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ACUTE articular rheumatism, or rheumatic fever, is an acute non-contagious fever, evidently dependent upon an unknown infective agent. It is characterized by multiple arthritis and a marked tendency to inflammation of the fibrous tissues.

Rheumatism prevails in temperate and humid climates. In America the statistics show the majority of cases in the early spring months, while in Great Britain the maximum of cases occur in the autumn.

It is essentially a disease of youth and middle age, infants and old people being seldom attacked. Exposure to cold, damp, or extreme changes of temperature are almost always associated with the onset of this fever; therefore occupations which necessitate exposure to those conditions predispose to both the acute and chronic forms of rheumatism. Heredity is now rather discredited as a predisposing cause for this disease.

Several theories have been advanced as to the nature and mode of action of the special cause of acute articular rheumatism. At one time the presence of lactic acid in the blood was supposed to be the cause, but this theory has been rejected. The neurotic theory advocated by the late Dr. T. K. Mitchell has now few advocates. The most modern and universally accepted theory is that which claims some unknown infectious agent as the cause. So far no positive proof has been offered of the constant association of any special micro-organism with the disease.

We will now consider briefly the symptoms of the disease. The onset is frequently associated with a feeling of malaise, sore throat, and particularly tonsillitis. There is seldom a decided chill. A feeling of chilliness is accompanied by a general aching pain which usually settles in one joint. This joint becomes rapidly very painful, and in twenty-four hours the disease is fully developed. The temperature rises almost at once, and ranges from 102°F. to 104°F., and in extreme cases to 105°F. or 106°F. The pulse is frequent, soft, and usually above 100; the tongue is moist and coated; there is loss of appetite, with thirst and constipation. The urine is scanty, highly colored, and strongly acid. We almost invariably get profuse acid sweats, with a strong, disagreeable odor. The surface of the body is often covered with sweat vesicles; sometimes a red miliary rash is present, and very frequently purpura.

The joints most commonly affected are the hips, the knees, the ankles, the shoulders, the elbows, and the wrists. They become swollen, red, and exquisitely tender. There is rarely extreme effusion into a joint. The amount of swelling varies, and redness is not always present.

It is seldom that the disease is limited to one joint. The inflammation passes from one joint to another; while subsiding in one it commences in another. It rarely happens that more than one or two are actively affected at one time. Perhaps no disease is more painful than this acute polyarthritis. The agony of every movement, the profuse sweats, the extreme prostration and helplessness, make it the most distressing of all fevers. The patient is seldom delirious. The temperature is peculiarly irregular, depending upon the extent and intensity of the articular inflammation and on the profuse sweats. We get a well-marked leucocytosis and a change in the blood, accompanied by a rapidly developed anæmia.

During the course of this disease there is shown a marked tendency to inflammation of the structures of the heart. This is the chief danger in an attack of rheumatism, for the heart, when once affected, is apt to be permanently injured. Endocarditis is the most frequent form of heart complication, but we also get both pericarditis and endocarditis. Pleurisy and pneumonia are also complications of not infrequent occurrence and of very grave prognosis. In those cases associated with hyperpyrexia, pericarditis, and pneumonia we expect delirium, and in many cases coma, which always denotes a fatal termination.

Frequently we find small nodules in the connective-tissues and fascia, especially in cases of severe and chronic rheumatic endocarditis.

### TREATMENT IN ACUTE ARTICULAR RHEUMATISM.

The general treatment consists of absolute rest in bed, flannel or all wool bed-clothing, and no exposure to cold or damp.

During the course of the fever liquid nourishment is given every two hours, and should consist chiefly of milk and milk products. Water should be given freely between feedings in the form of rice-water, barley-water, or Vichy.

A fuller diet is given during convalescence and should consist largely of farinaceous food. Meat should be avoided.

As far as the medical treatment is concerned there is no specific, no drug that will abort or shorten the attack.

Prior to 1876 the treatment of the disease had been antiphlogistic, expectant, or alkaline. About 1874 the study of the natural history of acute rheumatism led to the supposition that it was of miasmatic origin, and on this theory was based the salicylic treatment, and this, combined

with the alkaline, is at the present day the most universal and beneficial treatment. Some physicians claim that the salicylates diminish the danger of complications. They are commenced on the first indications of the disease and continued till recovery. Given in full and frequent doses their effect must be carefully noted, as they are heart depressants.

The preparations of the salicylates most commonly employed are:

Ol. Gaultheria, ten minims, every three or four hours.
Sod. Salicylate, twenty grains, every three or four hours.
Salicin, twenty grains, every three or four hours.
Aspirin, five grains, every three or four hours.

To render the urine alkaline an alkali is given, the acetate, bitartrate, or citrate of potassium being used, commencing with thirty grains every four hours, and increasing or diminishing the dose to keep the urine just alkaline. The urine reaction must therefore be tested and charted at each urination.

To allay pain, phenacetin, antipyrin, or ammonal should be tried before opium is resorted to.

To regulate the bowels an alkaline cathartic (magnesium sulphate, or sal Rochelle, etc.) is preferable, given in the morning.

The newest treatment is that by serum, and is strongly advocated by Menzer. He isolated streptococci from the tonsils of rheumatic subjects and used large amounts of culture from these streptococci to immunize large animals. This serum was employed in more than thirty cases of rheumatism. The dose he used was one hundred to one hundred and fifty cubic centimetres at first and later fifty to seventy-five cubic centimetres as the serum had become more active.

The injections caused no pain or local reaction. A general reaction usually occurred, consisting in chilliness, fever, and skin eruptions.

He believes that in acute cases the disease ran a shorter course, and he insists that the treatment seemed definitely to prevent the occurrence of severe endocarditis.

The local treatment of rheumatism is of great importance and the methods employed numerous. The affected joints may simply be wrapped in absorbent cotton. Hot fomentations are used, also hot cloths wet in Fuller's solution (carbonate of soda, six drachms; laudanum, one ounce; glycerine, two ounces; water, nine ounces). Tincture of aconite and chloral in an alkaline solution or chloroform liniment are also employed.

A very beneficial application is guaiacol and glycerine (guaiacol, one ounce; glycerine, one ounce; spirits myristicæ, one drachm; olei cassiæ, six minims) applied sparingly to the affected joint, which

is then wrapped in absorbent cotton and lightly bandaged. An application of equal parts of olive oil and oil of gaultheria is used with fair results. On the Continent they employ cold compresses, and also fixation by means of splints and plaster-of-Paris casts.

The complications of this disease are treated as they arise according to the usual treatment of such diseases.

### THE NURSING IN ACUTE ARTICULAR RHEUMATISM.

Good nursing in acute articular rheumatism can almost be classed under the head of treatment, for it is a very important factor, not only in the patient's recovery, but in a recovery without complications. The patient's suffering will be materially diminished or increased according to the capability of the nurse. The pain, prostration, and helplessness which mark this disease render the patient nervous, fretful, and childish; the nurse must therefore have infinite patience and tact. Every act must be performed in the most deliberate, quiet, and gentle manner, for a careless, awkward touch to bed or patient, a quick step, or a loud noise all cause agony to the sufferer. Owing to the frequent occurrence of heart complications too great stress cannot be laid on the careful protection of the patient from any exposure to draught, cold, or damp. A patient should also be guarded from all excitement, and mental and physical effort of every kind should be avoided.

If a choice of rooms is possible, let the sick-chamber be large and quiet, with a southern exposure. The temperature of the room should be kept at about 70°F. and as even as possible; it will require, however, to be well ventilated and that without draughts, screens being used before both the window and the door. A high three-quarter width bed is preferable, provided with good springs and a firm hair mattress. Make the bed with great care, the sheets pulled very tight and smooth, with a rubber sheet under the draw-sheet. One pillow only is allowed under the patient's head.

The patient is placed between a light pair of woollen blankets, and these are sewed or pinned together at the shoulders. It is better to omit the use of a nightgown until the acute stage of the disease is past, when a flannel one is used and the blanket discarded. The under blanket is changed twice a day, and oftener only when rendered absolutely necessary by the occurrence of a drenching sweat. The pillows used to support the affected joints are covered with light rubber and flannel pillow-cases. A cage is placed over such joints to avoid any pressure from heavy coverings. It requires great skill and patience to apply any local treatment to these painful joints, and still more skill and patience to get them so disposed as to cause the patient the least pain. A urinal

should always be employed when possible, and it is frequently necessary to use pads in place of the bedpan. When changing the bedding, placing the patient on the bedpan, or applying local treatment, it is necessary to have an assistant, especially when the pain and prostration are marked. A warm sponge-bath is given each morning, followed by an alcohol rub and an application of talcum powder. The bath must be given carefully and entirely under cover, with no exposure to cold. Particular attention must be paid to the back, and the patient's position in bed changed at least twice a day. After the profuse sweats, which are such a distressing symptom of the disease, the patient should be dried off very carefully, rubbed with alcohol, and powdered.

As long as the patient is on liquid diet the mouth is carefully cleansed with an alkaline solution before and after each feeding. The nourishment should be prepared with care and daintily served and the patient induced to take at least eight drachms every two hours and to drink Vichy freely between feedings.

The temperature, pulse, and respiration are taken every two, three, or four hours, according to the doctor's orders. These are charted carefully, and on this temperature chart is also kept a record of the sweats, owing to their action on the temperature. The doctor's orders must always be carried out in an intelligent manner. The doctor will also expect the nurse to be able to give him every particular of the patient's condition during his absence. To do this accurately it is always necessary to keep careful bedside notes.

The following points should all be noted:

1. The amount and character of each urination and defecation.
2. The character of the pulse and respiration.
3. The amount and character of the sleep.
4. The medication and treatment, with the results.
5. The kind and amount of nourishment taken.
6. The joints affected, with the amount of swelling, redness, and tenderness.
7. The sweats, their intensity and duration.
8. The presence of any sweat vesicles, rash, or purpura.
9. Any pain or other symptoms denoting heart or lung complications.

The nursing of this disease during convalescence presents few points of difference from the general nursing of any convalescent patient. It is well to give a gentle massage twice a day to the body, paying particular attention to the joints. The patient will have to be kept rather quiet and not allowed to take too much exercise, owing to the danger of late cardiac complications.

The key-note of nursing in acute articular rheumatism is summed up in these last words, "danger of cardiac complications," against which danger we have to fight from the beginning to the end of the disease.

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## THE INTERNATIONAL COUNCIL OF NURSES

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AFTERNOON SESSION

*II.—Education*

### SUGGESTIONS FOR EDUCATIONAL STANDARDS FOR STATE REGISTRATION

DISCUSSION ON MISS NUTTING'S PAPER

MISS ISLA STEWART (Great Britain) said she had listened with great interest and some apprehension to Miss Nutting's paper. It might be possible to include all that she advocated in the curriculum of training in America, but she did not think it could be done at present in Great Britain. If probationers learnt the elements of anatomy and physiology, —and no thorough knowledge could be obtained without practising dissection,—she considered that sufficient. A good deal could be taught as to the action of drugs without practical dispensing. However many years of study a nurse went through, it must be remembered that the pecuniary value for the skilled services of the average nurse would never be more than two pounds two shillings a week, and there must be some relation between outlay and subsequent earnings.*

Miss Stewart said she felt strongly that nothing less than three-years' practical training at the bedside of the patients in hospital wards could be considered adequate. Preliminary training was very largely a financial question. If it could be arranged in connection with central schools, it would be excellent. She doubted if nurses remembered very much that they were taught in lectures. She thought there was much wisdom in the assertion of a certain Hungarian professor: "What I teach you is of no use to you; the only knowledge of use to anyone is that which he learns in silence and solitude, with sorrow and sometimes with tears." She was a believer in hard work during the training period; the necessary discipline aided the development of character. For herself,

* In the United States a graduate nurse can earn from five pounds to seven pounds a week.